

Fuzzy Pattern Recognition with High Uncertainty

By the advent of pattern recognition techniques, data processing and making intelligent decisions has been facilitated. Pattern recognition focuses on the recognition of patterns and regularities in data and try to classify observations such as medical objects, symptoms of patients, speech or images. Classification, data clustering, regression, sequence labeling, and parsing, which assigns a parse tree to an input sentence, are some pattern recognition methods.

In many real world problems, we encounter **high uncertain** information and knowledge based on which decision making should be considered. In such situations, fuzzy set theory can be used to model and solve problems with vague information. In some problems, the semantic of problem needs hybrid of the fuzzy set with stochastic, probability or rough sets.

Regarding to the increasing need for developing pattern recognition techniques to manage the complexity of systems. This session welcomes the researchers and papers in the area of theory and applications of fuzzy pattern recognition. The topics of this session include but are not limited to the following areas:

- Supervised and Unsupervised Type-2 fuzzy learning methods
- Classification methods in pattern recognition (crisp, type-1 fuzzy, type-2 fuzzy and Hybrid of fuzzy sets with other sets)
- Clustering methods in pattern recognition (crisp, type-1 fuzzy, type-2 fuzzy and Hybrid of fuzzy sets with other sets)
- Fuzzy Data Mining methods and applications
- Big Data pattern analysis
- Graph-Based techniques (crisp, type-1 fuzzy, type-2 fuzzy and Hybrid of fuzzy sets with other sets)
- Learning methods for fuzzy pattern recognition (fuzzy neural networks, Support Vector Machines, Relevance Vector Machines, etc.)
- Intelligent agent systems (crisp, type-1 fuzzy, type-2 fuzzy and Hybrid of fuzzy sets with other sets)
- Image perception and Observer Performance
- Computer-Aided Diagnosis and Quantitative Image Analysis
- Hidden learning methods in pattern recognition and data mining
- Real-World applications of higher level fuzzy pattern recognition and data mining in intelligent agents, image processing, computational biology, medicine and voice recognition, etc.



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